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EXAMINER

BELENA, JOHN F

ART UNIT PAPER NUMBER

3746

DATE MAILED: 06/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/632,294	Applicant(s) MCCALL ET AL.	
	Examiner John F. Belena, Ph.D.	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20040521</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because Figures 2, 3 & 4 need enlargement so that the structural elements of the pump and the terminus of the leader lines can be clearly distinguished, the tang or tab at 35 is missing in Figures 2, 3 & 4 and in Figure 1, the outlet of the pump needs to be referenced with a numeral. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "*spring retainer having a circular lip*" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: on page 8, para. [0029], lines 17-18 recite in *summary* that "upper end 21 is coupled to lower end 22 of tube 14 by adapter 23" which is in opposition to the inventive drawings which clearly show upper end 21 is coupled to adapter 23 which in turn is coupled to tube 25 which lastly is coupled to lower end 22 of tube 14; on page 14, para. [0044], line 9 the recitation "out the end of the inner" should recite

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--out the outlet ## of the inner-- where ## is chosen by applicant for pump outlet in Figure 1 and lastly on page 17, para. [0057] lines 8-9 the recitation "negative pressure" should read --vacuum-- because pressure is either zero or a positive value.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 1-31** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. **Claim 1**, line 6, **claim 4** line 3, **claim 20** lines 2-3, **claim 14**, line 7 and **claim 30**, line 5 recite in part that "the lower or second end (20) of the bladder (11) is attached to the outer member (13)" which needs correcting because the end (20) of the bladder is attached to lower bladder adapter (26) which is within the bore of the outer member (13).

7. **Claim 5**, line 2 recites that the "bladder (11) has corrugations (19) along its length *and* open ends" yet the cuffs {(20), (21)} which are the open ends are non-corrugated as clearly seen in applicant's Figures 2-5.

8. **Claim 13**, lines 3-4 recite "a check ball and a seat on one side of the check ball" which needs editing to read --a check ball and a seat facing one side of the check ball-- because the seat is not part of the check ball.

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9. **Claim 15**, line 3 recites “pump from the ground surface or other point of operation of the pump to the bladder” is unclear as to which ground surface or operation point is being referred to. Examiner suggests replacing the recitation with --pump’s bladder--.

10. **Claim 19**, lines 2-3 recite “a seat on one side of the check ball and a projection on the other side of the check ball” which needs editing to read --a valve seat facing a lower side of the check ball and a projection facing an upper side of the check ball-- because the seat and projection are not on or form part of the check ball.

11. **Claim 20**, lines 4-5 recites in part “check valve from seating against the lower bladder adapter” which should read --check valve from seating to close against the lower bladder adapter-- because the projection can be part of the lower bladder adapter such as when the adapter has milled slots at its lower end. With the projection constituting part of the lower bladder adapter then the check ball of the first check valve will seat against the lower bladder adapter yet not close the inlet passage (28).

12. **Claim 21**, line 4, the recitation “to bias the inner tubular member relative to the outer tubular member” fails to point out the nature of the bias, that is, How is the inner tubular member being biased relative to the outer tubular member?

13. **Claim 24**, lines 1-3, **claim 25**, lines 2-3 and **claim 26**, lines 2-3 recite in *summary* that “the first end (21) of the bladder is coupled to the lower end of the inner tubular member (14) by adapter (23)” yet it is clear from applicant’s inventive drawings that --the first end (21) is coupled to the adapter (23) which is coupled to tube connector (25) which in turn is connected to lower end of tubular member (14)--.

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14. **Claim 24**, lines 3-4 recite " a surface on an upper end of the upper bladder adapter provides a seat for a lower end of the spring" yet Figure 5 shows the spring (41) to be inserted in tube (25) and seating on upper surface of check ball retainer (37).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 1, 2, 3-9, 11-13, 27 & 28** are rejected under 35 U.S.C. 102(b) as being anticipated by (2,613,610) to R. B. Saalfrank.

Saalfrank Figure 1 reads on applicant's claims 1, 2, 4-7, 11 & 12 as follows: According to applicant's **claim 1**, a fluid pumping device, comprising: an inner member {(27), (38)} and an outer member {(34), (35), (36)} which are arranged together for oscillating movement relative to each other; and a pump mechanism {(24), (26)} operated by the oscillating movement of the inner and outer members, said pump mechanism comprising a bladder {(24), (26)} having a first end attached to the inner member (27) and a second end attached to the outer member {(34), (35)}. According to applicant's **claim 2**, wherein said outer member (36) is a tubular member. According to applicant's **claim 3**, wherein said inner member (38) is a tubular member arranged within a bore (37) of said outer member (35). According to applicant's **claim 4**, wherein the first end of said bladder {(24), (26)} is attached to a lower end of the inner member (27) and the second end of said bladder is attached to a lower end of the outer member {(34), (35)}, and

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wherein said bladder is arranged to be compressed upon relative movement between the inner and outer members in a first direction and extended upon relative movement between the inner and outer members in a second direction opposite to said first direction. According to applicant's **claim 5**, wherein said bladder has corrugations along its length and open ends {(27), (34) & (35)}. According to applicant's **claim 6**, wherein said pump mechanism comprises first {(30), (31)} and second {(32), (33)} check valves in fluid communication with the first and second ends of the bladder {(24), (26)}, respectively, said check valves allowing fluid to enter one end of the bladder upon expansion of the bladder and causing fluid to exit the other end of the bladder upon compression of the bladder. According to applicant's **claim 7**, wherein said pump mechanism comprises first {(30), (31)} and second {(32), (33)} check valves in fluid communication with the first and second ends of the bladder, respectively, said check valves allowing fluid to enter one end of the bladder upon expansion of the bladder and causing fluid to exit the other end of the bladder upon compression of the bladder. According to applicant's **claim 11**, wherein said inner (38) and outer (36) members are concentric tubular members. According to applicant's **claim 12**, wherein said bladder {(24), (26)} is concentric with said inner 38) and outer (36) members. According to applicant's **claim 13**, wherein said pump mechanism comprises first and second check valves in fluid connection with an inlet (20) and an outlet (21) thereof, respectively, said check valves each comprising a check ball and a seat on one side of the check ball.

Saalfank Figure 10 reads on applicant's claims 1, 8, 9, 27 & 28 as follows: According to applicant's **claim 1**, a fluid pumping device, comprising: an inner member {(38) & its piston head, (100) & its piston head} and an outer member {(25), (26), (42), (43), (44)} which are arranged together for oscillating movement relative to each other; and a pump mechanism {(25),

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(26), (98)} operated by the oscillating movement of the inner and outer members, said pump mechanism comprising a bladder {(25), (26)} having a first end attached to the inner member and a second end attached to the outer member {(43), (44)}. According to applicant's **claim 8**, the fluid pumping device further comprising a return spring (102) that stores energy during a tension stroke of the inner member and releases energy during a compression stroke of the inner member. According to applicant's **claims 9 & 28**, wherein at least a portion of said inner member {(38) & head, (100) & head} is flexible – {all metals have a modulus of elasticity – flexibility}. According to applicant's **claim 27**, a fluid pumping device, comprising: an inner {(38),(100)} member and an outer member {(25), (26), (42)} which are arranged together for oscillating movement relative to each other; a pump mechanism {(25), (26)} operated by the oscillating movement of the inner and outer members; and a return spring (102) that stores energy during a tension stroke of the inner member and releases energy during a compression stroke of the inner member. See R. B. Saalfrank Figures 1 & 10 and rest of detailed description.

8. **Claims 1-5, 9, 11, 12 & 30** rejected under 35 U.S.C. 102(b) as being anticipated by (5,915,930) to McNaull.

McNaull Figures 1-3 disclose according to applicant's **claim 1**, a fluid pumping device (10), comprising: an inner member (23) and an outer member (11) which are arranged together for oscillating movement relative to each other; and a pump mechanism (12) operated by the oscillating movement of the inner and outer members, said pump mechanism comprising a bladder (12) having a first {internal} end attached to the inner member (23) and a second end attached to the outer member (11). According to applicant's **claim 2**, wherein said outer member

(11) is a tubular member. According to applicant's **claim 3**, wherein said inner member (23) is a tubular member arranged within a bore {inside} of said outer member (11). According to applicant's **claim 4**, wherein the first end of said bladder (12) is attached to a lower end of the inner member (23) and the second end of said bladder is attached to a lower end of the outer member (11) and wherein said bladder (12) is arranged to be compressed upon relative movement between the inner and outer members in a first direction and extended upon relative movement between the inner and outer members in a second direction opposite to said first direction. According to applicant's **claim 5**, wherein said bladder (12) has corrugations (16) along its length and open ends. According to applicant's **claim 9**, wherein at least a portion of said inner member (23) is flexible – {all armature metals have a modulus of elasticity – flexibility}. According to applicant's **claim 11**, wherein said inner (23) and outer (11) members are concentric tubular members. According to applicant's **claim 12**, wherein said bladder (12) is concentric with said inner (23) and outer (11) members. According to applicant's method **claim 30**, McNaul discloses an apparatus amenable to a method of collecting a fluid sample from a well, comprising the steps of: providing a pumping device (10) having an inner member (23) and an outer member (11) which are arranged together for oscillating movement relative to each other in a longitudinal direction, and a pump mechanism comprising a bladder (12) having a first {internal} end attached to the inner member (23) and a second end attached to the outer member (11); placing the pumping device in a well (pump well placement is well known in the art of pumping); and oscillating the inner member (23) relative to the outer member (11) to mechanically power the pump mechanism (12) to pump a fluid sample to an outlet of the pumping device {past (15)}. See McNaul Figures 1-3 and rest of detailed description.

9. **Claims 1-4, 11, 12, 14-18 & 26** are rejected under 35 U.S.C. 102(b) as being anticipated by (5,207,339) to Shyu.

Shyu Figures 1-3 disclose according to applicant's **claim 1**, a fluid pumping device, comprising: an inner member (5) and an outer member (1) which are arranged together for oscillating movement relative to each other; and a pump mechanism (4) operated by the oscillating movement of the inner and outer members, said pump mechanism comprising a bladder (4) having a first end attached to the inner member (5) and a second end attached to the outer member (1). According to applicant's **claim 2**, wherein said outer member (1) is a tubular member. According to applicant's **claim 3**, wherein said inner member (5) is a tubular member arranged within a bore {inside} of said outer member (1). According to applicant's **claim 4**, wherein the first end of said bladder (4) is attached to a lower {(5) can have any orientation in space} end of the inner member (5) and the second end of said bladder is attached to a lower {(1) can have any orientation in space} end of the outer member (1) and wherein said bladder (4) is arranged to be compressed upon relative movement between the inner (5) and outer (1) members in a first direction and extended upon relative movement between the inner and outer members in a second direction opposite to said first direction. According to applicant's **claim 11**, wherein said inner (5) and outer (1) members are concentric tubular members. According to applicant's **claim 12**, wherein said bladder (4) is concentric with said inner (5) and outer (1) members. According to applicant's **claim 14**, a mechanical bladder pump for collecting fluid (gas) samples from a well {into a bottle}, comprising: an outer tubular member (1) having a longitudinal bore; an inner tubular member (5) arranged within the bore of the outer tubular member for oscillating longitudinal movement of the inner member (5) relative to the outer member (1); a bladder (4)

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having a first end coupled to a lower end of the inner member and a second end coupled to a lower end of the outer member (1), one of the first and second ends of the bladder being in fluid communication with an inlet passage (32), and the other of said first and second ends of said bladder being in fluid communication with an outlet passage (33) {both ends of (4) are in fluid communication with passages (32), (33); a first check valve (22) arranged in said inlet passage for allowing fluid to enter the bladder through the inlet passage (32) upon expansion of the bladder and preventing fluid from exiting the bladder through the inlet passage upon compression of the bladder; and a second check valve (23) arranged in said outlet passage for preventing fluid from entering the bladder through the outlet passage (33) upon expansion of the bladder and allowing fluid to exit the bladder through the outlet passage (33) upon compression of the bladder. According to applicant's **claim 15**, the mechanical bladder pump wherein said inner tubular member (5) provides a means for transmitting force for mechanically powering the pump from the ground surface or other point of operation of the pump to the bladder (4).

According to applicant's **claim 16**, the mechanical bladder pump wherein said outer tubular member (1) provides a means for holding the pump {with bottle} in a desired position within a well. According to applicant's **claim 17**, the mechanical bladder pump wherein said inner (5) and outer (1) tubular members are concentric. According to applicant's **claim 18**, the mechanical bladder pump wherein said bladder (4) has corrugations along its length and is arranged within the outer tubular member (1) for expansion and contraction in a longitudinal direction. According to applicant's **claim 26**, the mechanical bladder pump wherein said first end of the bladder is an upper end of the bladder and is coupled to the lower {(5) can have any orientation in space} end of the inner tubular member (5) by an upper bladder adapter {the inside

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surface of (5) is adapted for the bladder (4)} which functions as a movable piston to compress and expand the bladder (4) during operation of the pump. See Shyu Figures 1-3, abstract and remaining detailed description.

10. **Claims 14-18, 26 & 30** are rejected under 35 U.S.C. 102(b) as being anticipated by (5,411,381) to Perrodin.

Perrodin Figures 5-6 disclose according to applicant's **claim 14**, a mechanical bladder pump (10) {can be used} for collecting fluid samples from a well, comprising: an outer tubular member (14) having a longitudinal bore; an inner tubular member (24) arranged within the bore of the outer tubular member for oscillating longitudinal movement of the inner member (24) relative to the outer member (14); a bladder (56) having a first end coupled to a lower end of the inner member and a second end coupled to a lower end of the outer member (14), one of the first and second ends of the bladder being in fluid communication with an inlet passage (40), and the other of said first and second ends of said bladder being in fluid communication with an outlet passage (48); a first check valve arranged in said inlet passage (40) for allowing fluid to enter the bladder through the inlet passage (40) upon expansion of the bladder and preventing fluid from exiting the bladder through the inlet passage upon compression of the bladder; and a second check valve arranged in said outlet passage (48) for preventing fluid from entering the bladder through the outlet passage (48) upon expansion of the bladder and allowing fluid to exit the bladder through the outlet passage (48) upon compression of the bladder. According to applicant's **claim 15**, the mechanical bladder pump wherein said inner tubular member (24) provides a means for transmitting force for mechanically powering the pump from the ground

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surface or other point of operation of the pump to the bladder (56). According to applicant's **claim 16**, the mechanical bladder pump wherein said outer tubular member (14) provides a means (13) for holding the pump in a desired position within a well. According to applicant's **claim 17**, the mechanical bladder pump wherein said inner (24) and outer (14) tubular members are concentric. According to applicant's **claim 18**, the mechanical bladder pump (10) wherein said bladder (56) has corrugations along its length and is arranged within the outer tubular member (14) for expansion and contraction in a longitudinal direction. According to applicant's **claim 26**, the mechanical bladder pump (10) wherein said first end of the bladder (56) is an upper end of the bladder and is coupled to the lower end of the inner tubular member (24) by an upper bladder adapter {pipe referenced with 52"} which functions as a movable piston to compress and expand the bladder (56) during operation of the pump. According to applicant's method **claim 30**, Perrodin discloses an apparatus amenable to a method of collecting a fluid sample from a well, comprising the steps *of*: providing a pumping device (10) having an inner member (24) and an outer member (14) which are arranged together for oscillating movement relative to each other in a longitudinal direction, and a pump mechanism comprising a bladder (56) having a first end attached to the inner member (24) and a second end attached to the outer member (14); placing the pumping device in a well and oscillating the inner member (24) relative to the outer member (14) to mechanically power the pump mechanism (56) to pump a fluid sample to an outlet of the pumping device.

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11. **Claims 1-7, 11-20, 25, 26 & 30** are rejected under 35 U.S.C. 102(b) as being anticipated by (4,483,665) to Hauser.

Hauser Figure 1 disclose according to applicant's **claim 1**, a fluid pumping device (1), comprising: an inner member (15) and an outer member {(11), (12a), (12b), (46)} which are arranged together for oscillating movement relative to each other; and a pump mechanism (13) operated by the oscillating movement of the inner and outer members, said pump mechanism comprising a bladder (13) having a first end attached to the inner member (15) and a second end attached to the outer member (12a). According to applicant's **claim 2**, wherein said outer member {(11), (46)} is a tubular member. According to applicant's **claim 3**, wherein said inner member (15) is a tubular member arranged within a bore of said outer member {(11), (12b)}. According to applicant's **claim 4**, wherein the first end of said bladder (13) is attached to a lower end of the inner member (15) and the second end of said bladder is attached to a lower end of the outer member (12a) and wherein said bladder (13) is arranged to be compressed upon relative movement between the inner and outer members in a first direction and extended upon relative movement between the inner and outer members in a second direction opposite to said first direction. According to applicant's **claim 5**, wherein said bladder (13) has corrugations along its length and open ends. According to applicant's **claim 6**, wherein said pump mechanism comprises first (23) and second (25) check valves in fluid communication with the first and second ends of the bladder (13) respectively, said check valves allowing fluid to enter one end of the bladder upon expansion of the bladder and causing fluid to exit the other end of the bladder upon compression of the bladder. According to applicant's **claim 7**, wherein said pump mechanism comprises first (23) and second (25) check valves in fluid communication with the

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first and second ends of the bladder (13), respectively, said check valves allowing fluid to enter one end of the bladder upon expansion of the bladder and causing fluid to exit the other end of the bladder upon compression of the bladder. According to applicant's **claim 11**, wherein said inner (15) and outer {(11), (46)} members are concentric tubular members. According to applicant's **claim 12**, wherein said bladder (13) is concentric with said inner (15) and outer {(11), (46)} members. According to applicant's **claim 13**, wherein said pump mechanism comprises first (23) and second (25) check valves in fluid connection with an inlet {@ FLUID IN} and an outlet {@ FLUID OUT} thereof, respectively, said check valves each comprising a check ball and a seat on one side of the check ball. According to applicant's **claim 14**, a mechanical bladder pump (1){can be used} for collecting fluid samples from a well, comprising: an outer tubular member {(11), (12b)} having a longitudinal bore; an inner tubular member (15) arranged within the bore of the outer tubular member (11) for oscillating longitudinal movement of the inner member (15) relative to the outer member {(11), (12b)}; a bladder (13) having a first end coupled to a lower end of the inner member (15) and a second end coupled to a lower end of the outer member (11), one of the first and second ends of the bladder being in fluid communication with an inlet passage {@ FLUID IN}, and the other of said first and second ends of said bladder being in fluid communication with an outlet passage {@ FLUID OUT}; a first check valve (23) arranged in said inlet passage for allowing fluid to enter the bladder through the inlet passage {@ FLUID IN} upon expansion of the bladder and preventing fluid from exiting the bladder through the inlet passage upon compression of the bladder; and a second check valve (25) arranged in said outlet passage for preventing fluid from entering the bladder through the outlet passage upon expansion of the bladder and allowing fluid to exit the bladder through the

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outlet passage upon compression of the bladder. According to applicant's **claim 15**, the mechanical bladder pump (1) wherein said inner tubular member (15) provides a means for transmitting force for mechanically powering the pump from the ground surface or other point of operation of the pump to the bladder (13). According to applicant's **claim 16**, the mechanical bladder pump (1) wherein said outer tubular member {(11), (12a)} {can} provide a means (67) for holding the pump in a desired position within a well. According to applicant's **claim 17**, the mechanical bladder pump (1) wherein said inner (15) and outer {(11), (12a)} tubular members are concentric. According to applicant's **claim 18**, the mechanical bladder pump (1) wherein said bladder (13) has corrugations along its length and is arranged within the outer tubular member (11) for expansion and contraction in a longitudinal direction. According to applicant's **claim 19**, wherein each of said check valves {(23), (25)} comprises a check ball, a seat on one side of the check ball, and a projection {spring} on the other side of the check ball. According to applicant's **claim 20**, wherein said second end of the bladder is a lower {pump rotated 180° to figure 1} end of the bladder (13) and is coupled to the lower end of the outer tubular member (12a) by a lower bladder adapter (17), said lower bladder adapter (17) having a projection {spring} on its lower end that prevents a check ball (25) of the first check valve from seating against the lower bladder adapter (17). According to applicant's **claim 25**, {pump rotated 180° to figure 1} wherein said first end of the bladder (13) is an upper end of the bladder and is coupled to the lower end of the inner tubular member (15) by an upper bladder adapter {piston head on (15)}, wherein said second check valve (25) comprises a check ball retainer {spring} attached to said upper bladder adapter (17), and wherein said check ball retainer has a {spring} projection on a lower surface thereof which prevents a check ball from closing said second

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passage {@ FLUID OUT} upon compression of the bladder (13). According to applicant's **claim 26**, {pump rotated 180° to figure 1} wherein said first end of the bladder is an upper end of the bladder and is coupled to the lower end of the inner tubular member (15) by an upper bladder adapter {piston head on (15)} which functions as a movable piston to compress and expand the bladder (13) during operation of the pump. According to applicant's method **claim 30**, Hauser discloses an apparatus amenable to a method of collecting a fluid sample from a well, comprising the steps of: providing a pumping device (1) having an inner member (15) and an outer member {(11), (12a)} which are arranged together for oscillating movement relative to each other in a longitudinal direction, and a pump mechanism comprising a bladder (13) having a first end attached to the inner member (15) and a second end attached to the outer member (12a); placing the pumping device in a well and oscillating the inner member (15) relative to the outer member {(11), (12a)} to mechanically power the pump mechanism (15) to pump a fluid sample to an outlet of the pumping device.

12. **Claims 27** is rejected under 35 U.S.C. 102(b) as being anticipated by (4,015,913) to Nakamura.

Nakamura, Figure 1 discloses according to applicant's claim 27, a fluid pumping device, comprising: an inner {with respect to(2)} member (13) and an outer member (15) which are arranged together for oscillating movement relative to each other; a pump mechanism (9) operated by the oscillating movement of the inner (13) and outer members (15); and a return spring (11) that stores energy during a tension stroke of the inner member (13) and releases energy during a compression stroke of the inner member (13). See Nakamura Figure 1 and

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entire detailed disclosure.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. **Claims 10 & 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over R. B. Saalfrank as applied to claims 1, 2, 3-9, 11-13, 27 & 28 in paragraph 7 above, and further in view of (5,022,312) to Rozek et al.

As set forth above in the rejection of claims 1, 2, 3-9, 11-13, 27 & 28 R. B. Saalfrank discloses the invention substantially as claimed. R. B. Saalfrank does not disclose the inner member made of polymeric material.

Rozek et al. Figure 3, discloses a piston head (24) and inner member rod (30) made of plastic polymeric material wherein the rod (30) is within outer member (44). See Rozek et al. Figure 3 and entire detailed description.

It would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to make the inner members of R. B Saalfrank Figure 10 of a polymeric material for light-wieght construction.

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Allowable Subject Matter

15. **Claims 8, 21-24 & 31** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

CONCLUSION

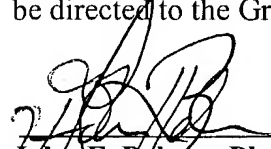
16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following selected patents and technical literature is cited to further show the state of the art in bladder pumping and related technology in general where the not all obvious salient features of the patents are disclosed as follows:

US Patent No. 2,822,121 to H. J. Sadler et al. discloses in Figure 4 bladder, spring and check valve mechanism.


17. Any inquiry concerning this communication from the examiner should be directed to **John F. Belena, Ph.D.** whose telephone number is (703) 305-3533. The examiner can normally be reached on Monday through Thursday from 9:00 AM to 5:00 PM. The examiner can also be reached on alternate Fridays from 9:00 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the **examiner's supervisor, Justine R. Yu, can be reached on (703) 308-2675**. The fax number for this Group Art Unit 3746 is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Art Unit 3746 receptionist whose telephone number is (703) 308-0861.



John F. Belena, Ph.D.
Group Art Unit 3746
5/21/04



JUSTINE R. YU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700